

What is Claimed is:

1. An expression system comprising:
 - a first nucleic acid sequence that encodes a Toll-like receptor operably linked to
 - 5 a first expression control sequence; and
 - a second nucleic acid sequence that encodes a reporter that (a) generates a detectable signal when the reporter is expressed and the cell is exposed to conditions effective for generating the detectable signal, and (b) is operably linked to a second expression control sequence that comprises a cytokine promoter, a chemokine promoter, a co-stimulatory marker promoter, or a defensin promoter.
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2. The expression system of claim 1 wherein the second expression control sequence comprises an IFN- α promoter.
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3. The expression system of claim 1 wherein the first nucleic acid sequence comprises the nucleotide sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, or a degenerate variant of any of the foregoing.
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4. The expression system of claim 1 wherein the first nucleic acid sequence comprises a nucleotide sequence that encodes a polypeptide having the sequence of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, or any one of the foregoing sequences with one or more conservative amino acid substitutions.
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5. The expression system of claim 1 wherein the detectable signal comprises luciferase activity or β -galactosidase activity.
6. The expression system of claim 1 wherein a first vector comprises the first
- 30 nucleic acid sequence and a second vector comprises the second nucleic acid sequence.
7. A vector comprising the expression system of claim 1.

8. A TLR agonist identified using the expression system of claim 1.
9. A pharmaceutical composition comprising the TLR agonist of claim 8, or a pharmaceutically acceptable salt thereof.
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10. A cultured cell comprising the expression system of claim 1.
11. The cultured cell of claim 10 wherein the cell is a mammalian cell or a descendent of a mammalian cell.
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12. The culture cell of claim 11 wherein the cell is a human cell or a descendent of a human cell.
13. The cultured cell of claim 10 further comprising an expressible nucleic acid sequence that encodes IFN- α operably linked to a third expression control sequence.
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14. The cultured cell of claim 13 wherein the expressible nucleic acid sequence that encodes IFN- α is located on a chromosome of the cultured cell.
- 20 15. The cultured cell of claim 14 wherein the cultured cell is a Namalwa cell.
16. The cultured cell of claim 13 wherein the expressible nucleic acid sequence that encodes IFN- α is located on an extrachromosomal vector.
- 25 17. A TLR agonist identified using the cultured cell of claim 10.
18. A pharmaceutical composition comprising the TLR agonist of claim 17, or a pharmaceutically acceptable salt thereof.
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